



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 118 TO FACILITY OPERATING LICENSE NO. NPF-3

TOLEDO EDISON COMPANY

AND

THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

DAVIS-BESSE NUCLEAR POWER STATION, UNIT NO. 1

DOCKET NO. 50-346

1.0 INTRODUCTION

By letter dated December 7, 1987, Toledo Edison Company proposed a revision to the Davis-Besse Nuclear Power Station, Unit No. 1 Appendix A Technical Specifications (TS's). The proposed change would revise the steam generator low-level setpoints as specified in Technical Specification 3.3.2.2, Steam and Feedwater Rupture Control System (SFRCS) Instrumentation.

The proposed revision would allow lowering the SFRCS Steam Generator Level-Low Setpoint from not less than 20 inches to not less than 16.4 inches. Toledo Edison Company asserts that the proposed change would reduce the potential for spurious SFRCS actuations by increasing the margin between the SFRCS trip setpoint and the Integrated Control System low level limit.

2.0 EVALUATION

The technical support provided for the reduction in the SFRCS Steam Generator Level-Low Setpoint includes a reanalysis of the Loss of Feedwater (LOFW) transient presented in Section 15.2.8 of the Updated Safety Analysis Report (USAR) and a description of the methodology employed to calculate the low level setpoint and allowable values. The reanalysis of the LOFW transient has been reviewed previously in response to a request by Toledo Edison Company for a change to Basis Section 3/4.7.1.2, Auxiliary Feedwater Systems, which would allow a change in the required Auxiliary Feedwater (AFW) flow from 800 gpm to 600 gpm. The staff has already reviewed and approved (Safety Evaluation dated November 18, 1987) that analysis.

The reanalysis of the LOFW transient assumed the initiating event to be the failure of the main feedwater control valves with a subsequent ramp-reduction to zero flow in 7 seconds. This represents a bounding case for the determination of the required AFW. This LOFW scenario is the only design basis accident that takes credit for SFRCS actuation due to steam generator low level and, as such, forms the basis for the determination of the steam generator low-level setpoint requirements for SFRCS.

The determination of the SFRCS Steam Generator Level-Low Trip Setpoint (16.4 inches), Allowable Value for Channel Functional Testing (15.6 inches) and Allowable Value for Channel Calibration (12.9 inches) was performed by Toledo Edison Company based upon the USAR transient analysis assumption for the setpoint (10 inches above lower tubesheet) and data associated with the instrument channels installed at Davis-Besse. The setpoint determination was performed in accordance with the guidelines of ISA Standard S67.04 which is standard industry practice. Allowances for transmitter drift and bistable drift are included in the determination of the allowable values.

Based upon a review of Toledo Edison Company's submittals in support of the application, the staff finds that Toledo Edison Company has evaluated the limiting transient associated SFRCS actuation of AFW due to low steam generator level, and has accounted for the USAR analysis assumptions and instrumentation uncertainties in the determination of the proposed Technical Specification revisions. Therefore, the staff finds the proposed changes acceptable.

3.0 ENVIRONMENTAL CONSIDERATION

Pursuant to 10 CFR 51.21, 51.32, and 51.35, an environmental assessment and finding of no significant impact has been prepared and published in the Federal Register on August 31, 1988 (53 FR33562). Accordingly, based upon the environmental assessment, the Commission has determined that the issuance of this amendment will not have a significant effect on the quality of the human environment.

4.0 CONCLUSION

The staff has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (2) such activities will be conducted in compliance with the Commission's regulations, and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

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Dated: August 31, 1988